

REMOVAL AND FINAL STATUS SURVEY OF HISTORIC AVENUE "N" WOOD STAVE PIPE

NAVAL STATION TREASURE ISLAND,
SAN FRANCISCO, CALIFORNIA

BCT Meeting
February 24, 2016

Brief Site History and Project Objectives

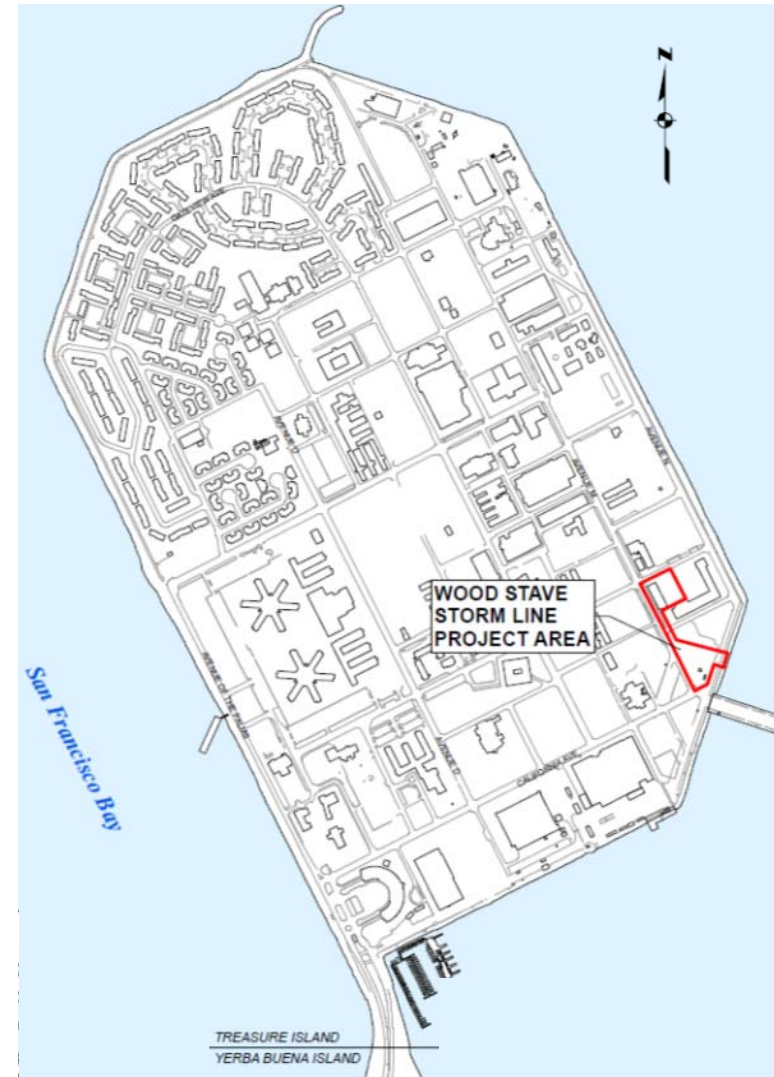


According to the *Final Historical Radiological Assessment – Supplemental Technical Memorandum* (2014):

- 30" wood stave pipe was identified as potentially being contaminated with radium-226 (^{226}Ra).
- Wood stave pipe was removed from the outfall extending westward to the approximate Avenue N centerline; the remaining inactive wood stave pipe was left in place in the 1970s.

Objective:

- Locate, excavate and characterize the wood stave pipe and its associated materials for radiological contamination.
- Conduct surveys on excavated soil (MARSSIM) to support characterization and free release of the project area.



Current Status of Work



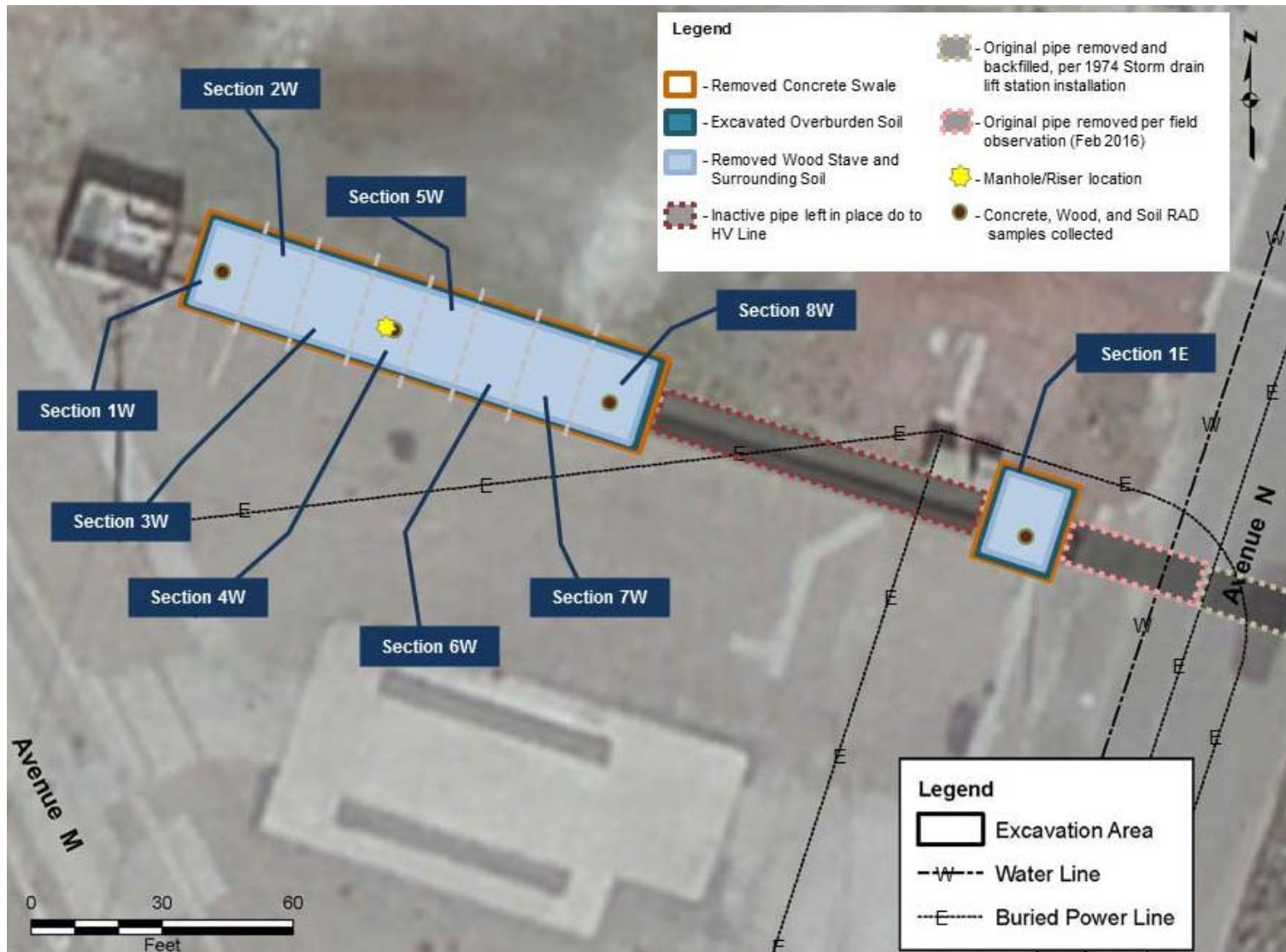
Concrete slurry from within the pipe in Section 5W

- 12/07/2015: Mobilized
- 12/11/2015: Topographic and geophysical surveys; completed site set up
- 12/11/2015: Traffic controls installed; will remain through Feb 2016
- 01/07/2016: Completed the bypass line
- 01/12/2016: Completed swale removal on west and east ends

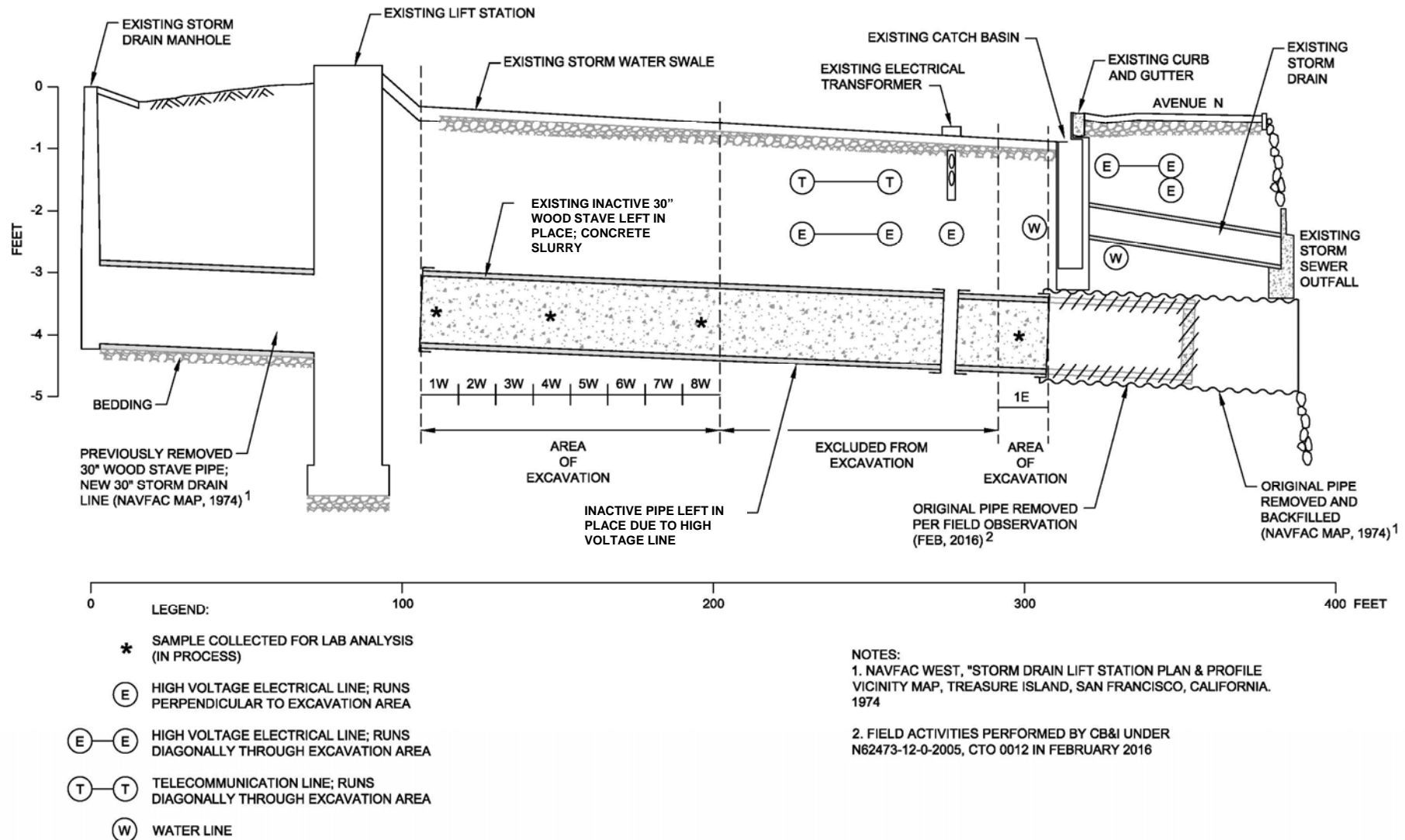


- 02/02/2016: Completed excavation and removal of wood stave pipe and associated materials in west and east ends
 - West End – approximately 96 ft long and 390 yd³ of material removed.
 - East End – approximately 12 ft long and 48 yd³ of material removed.

Current Status of Work



Excavation Profile – updated February 2016



Current Status of Work – Excavation



Removed riser and hardware associated with manhole



- Planned excavation of inactive west and east ends is complete
- **West End**
 - Approximately 96 ft long
 - 390 yd³ of material removed
 - 240 yd³: overburden
 - 150 yd³: radiologically impacted
 - Within Section 4W, a manhole was uncovered
 - Concrete slurry appears to have been applied from this manhole during decommissioning.
- **East End**
 - Approximately 12 ft long
 - 48 yd³ of material removed
 - 26 yd³: overburden
 - 22 yd³: radiologically impacted

Current Status of Work – Excavation



Completed excavation of west end of wood stove

- Soil excavated as overburden was stockpiled on the south side of the excavation
- Radiologically-impacted material was stockpiled within the RCA
- In-process gamma scanning, statics, and smears collected on soil, wood and concrete showed no indication of contamination



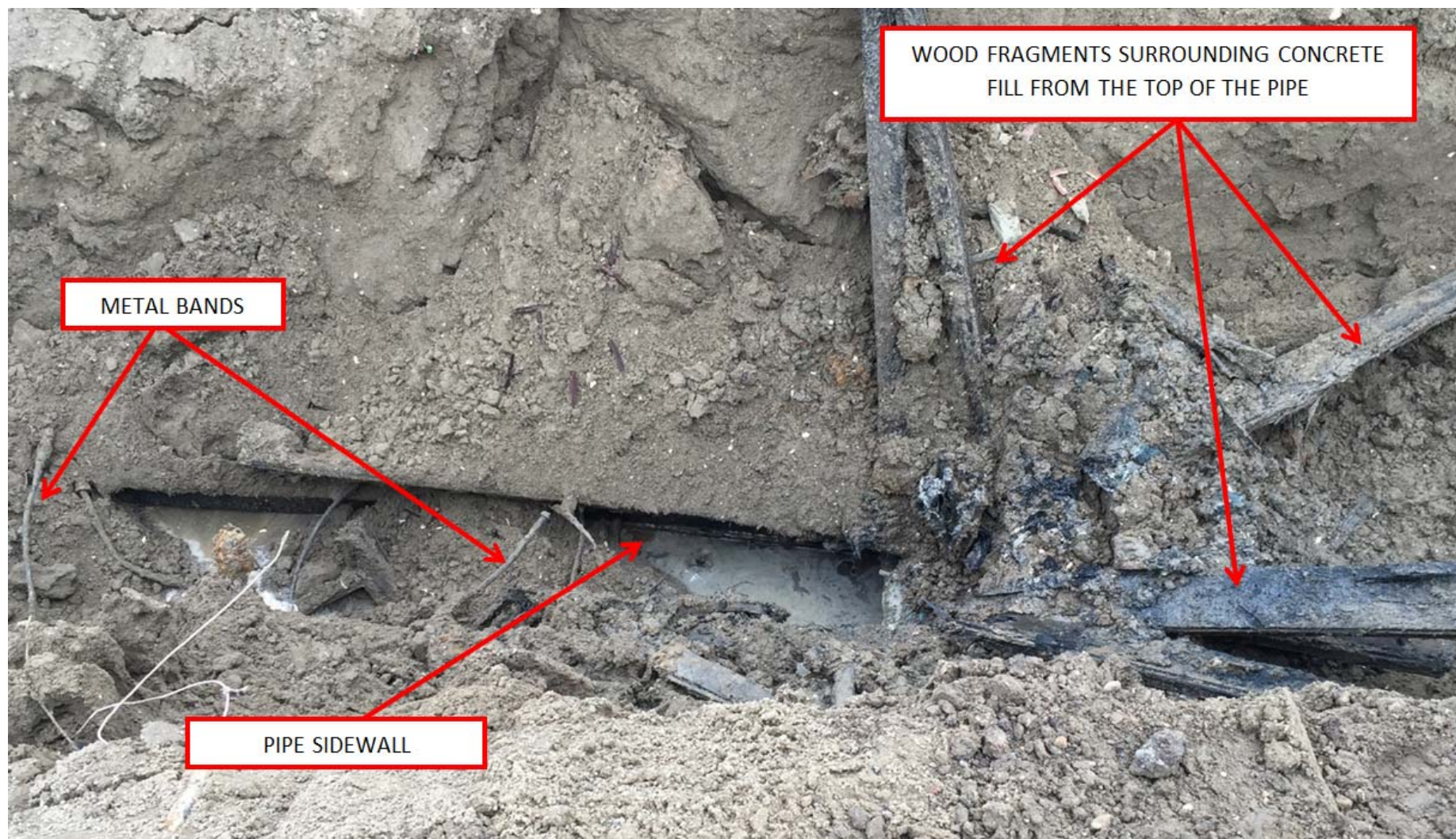
Stockpiled steel bands removed along the length of the excavation

Current Status of Work



Cross section of the pipe in its current state – concrete surrounds concrete slurry fill. Bands hold together tongue and groove fitted wood planks

Current Status of Work



Top view of pipe construction as found in the excavation

Current Status of Work – Excavation



In process gamma scanning of soil removed from Section 1E prior to loading it into RSY 233A



Tongue and groove construction of wooden pipe line



In process gamma scanning of wood fragments from Section 1E prior to separating wood from soil within RCA

Current Status of Work – Sampling

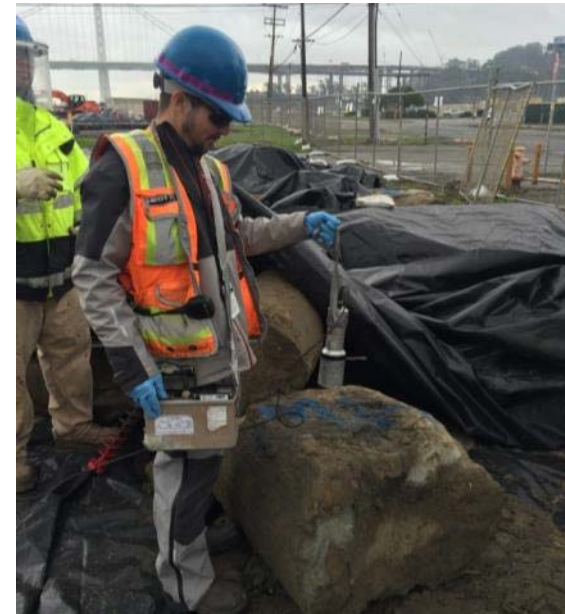


- To date:
 - In-process characterization samples have been collected within Sections 1W, 4W, 8W, and 1E on excavated wood, concrete slurry, and soil/sediment.
 - At least one sample of each medium was collected from each section

Sample Name	Location	Material	Result (pCi/g)
TITO12-WSTAVE-CH-S001	Section 1W	Soil within 1ft of pipe	0.342
TITO12-WSTAVE-WOOD	Section 1W	Wood	Not Detected
TITO12-WSTAVE-CNCRT-001	Section 1W	Concrete	<i>Pending Results</i>
TITO12-WSTAVE-CH-SED001	Section 4W	Sediment within 1ft of pipe	<i>Pending Results</i>
TITO12-WSTAVE-CH-SED002	Section 4W	Sediment within 1ft of pipe	<i>Pending Results</i>
TITO12-WSTAVE-WOOD012616	Section 4W	Wood	<i>Pending Results</i>
TITO12-WSTAVE-CNCRT-002	Section 4W	Concrete	<i>Pending Results</i>
TITO12-WSTAVE-W8CH-S002	Section 8W	Soil within 1ft of pipe	<i>Pending Results</i>
TITO12-WSTAVE-WOODW8CH-003	Section 8W	Wood	<i>Pending Results</i>
TITO12-WSTAVE-CNCRTW8CH-001	Section 8W	Concrete	<i>Pending Results</i>
TITO12-WSTAVE-E1CH-S005	Section 1E	Sediment within 1ft of pipe	<i>Pending Results</i>
TITO12-WSTAVE-WOODE1CH-006	Section 1E	Wood	<i>Pending Results</i>
TITO12-WSTAVE-CNCRTE1CH-004	Section 1E	Concrete	<i>Pending Results</i>

***Sample results show are preliminary results reported by the lab after the 7-day in growth.*

Current Status of Work – Sampling



Left and Top Right: sampling concrete for rad and chemical characterization

Bottom Right: collecting static readings on wood pieces pulled from the pipe structure for analysis.

Current Status of Work – Sampling



- 2/15/2016: Completed processing soil on RSY Pad 233A, Use 1 using standard RSY pad approach:
 - Spread soil to 6-9" thick layer
 - Removed remaining debris
 - Completed gamma scan walk over using RS-700 scanning system
 - Areas of interest were identified, but upon collecting static surveys on these areas, no exceedences were found.
 - 20 Systematic samples were collected to radiologically characterize the pad.



100% Gamma walkover using RS-700



Set up and collection of systematic sample

Upcoming Work

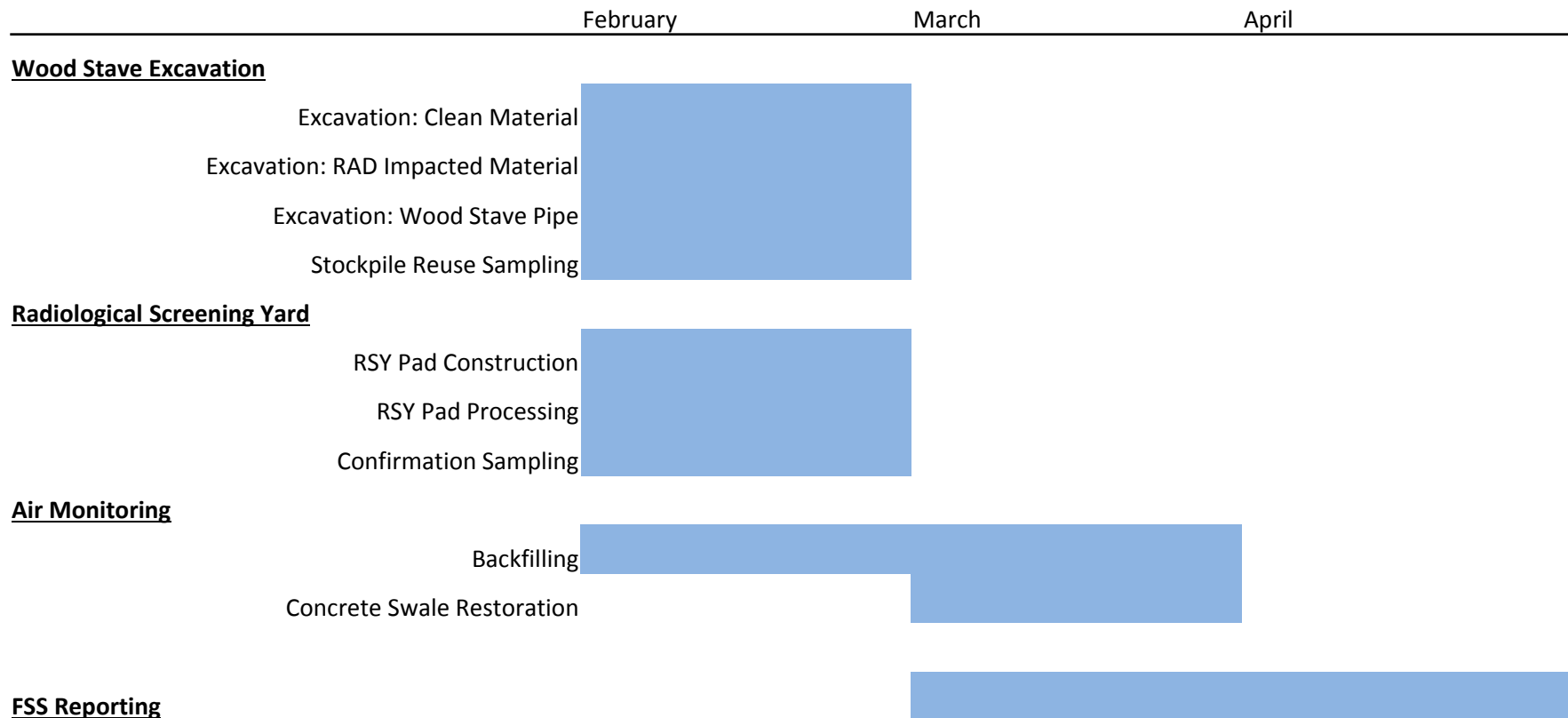


- Sample result review and follow-ups if needed.
- RASO/regulator acceptance of sample results to support characterization and free release of the project area.
- Concrete processing and backfilling.
- Concrete/asphalt restoration.
- Site demobilization.



Clean stockpiles along south side of project site.

Activity Schedule – 3 Month Look Ahead





Final wood stave pipeline section removed on east end (Section 1E)